What is claimed is:

1. A data distribution system having a data creator terminal and a data user terminal, wherein

5   said data creator terminal comprises:

a data creating unit which creates data;

a utilization restriction information setting unit which sets utilization restriction information used for specifying at least one usable item in said user terminal at said data creator

10   terminal when distributing said data to said user terminal;

a first conversion unit which converts said data into distribution format data on the basis of the utilization restriction information set by said utilization restriction information setting unit;

15   a first communication unit which communicates with said user terminal; and

a first determination unit which verifies whether a utilization information change request from said user terminal has been transmitted from a valid user terminal when changing a

20   once-set utilization condition in response to a request from said user terminal,

and

said user terminal comprises:

a second communication unit which performs data

communication with said data creator terminal;

a storage medium which records said distribution format data

transmitted from said data creator terminal;

5   a utilization item input unit which inputs at least one

utilization item for using said distribution format data

preserved in said storage medium;

a user information input unit which inputs user information

relating to a user of said user terminal;

10   a utilization restriction information retrieving unit which

retrieves utilization restriction information from said

distribution format data preserved in said storage medium;

a second determination unit which determines to be permitted

of execution of the utilization item or not in said user terminal

15   for said distribution format data on the basis of said

utilization restriction information, said utilization item and

said user information;

a utilization process unit which executes said utilization

item for said distribution format data on the basis of a result

20   determined by said second determination unit;

a change request input unit which inputs a change request of

the utilization restriction information for said data creator

terminal;

a second conversion unit which converts said change request

inputted through said change request input unit into a form

transmittable to the data creator terminal; and

a utilization restriction information rewriting unit which

5   causes said change request to be integrated into said

distribution format data in said storage medium when said change

request has been authorized by said data creator terminal.

2.   A data distribution system according to claim 1, wherein

said data creator terminal includes, as processes of said

10   first conversion unit, the steps of: storing data identification

information for uniformly defining said distribution format data

when creating said distribution format data; encrypting said data

by using a secret key 1 for encrypting by a secret key

15   cryptography to store said data in said distribution format data;

storing said utilization restriction information in said

distribution format data; storing a hash value of the utilization

restriction information in said distribution format data; storing

said secret key 1 in said distribution format data; and

20   encrypting said distribution format data by using a public key 2

which is a key of encryption of public key cryptography,

and

said user terminal includes, as processes of said second

conversion unit, the steps of: converting said change request

into a form transmittable to said data creator terminal; and

decrypting said distribution format data, which is encrypted by

using said public key 2, by using a private key 2,

5   includes, as a process of said utilization restriction

information retrieving unit, a step of hash converting said

utilization restriction information to compare with a hash value

in said distribution format data, and

includes, as a process of said utilization process unit, a

10 step of decrypting the encrypted data by using said secret key 1.

3.   A data distribution system according to claim 1, wherein

said data creator terminal further comprises:

a distribution record database which records said

15 distribution data and utilization conditions set in units of said

user terminal;

a distribution record database communication unit which

inputs and outputs data to said distribution record database; and

a display unit which displays said change request list of

20 which a digital signature has been verified by said first

determination unit,

said user terminal includes, as processes of said second

conversion unit, the steps of: converting the change request of

said utilization restriction information and said user

information into one change request list; giving a digital

signature to said change request list; and encrypting said change

request list, to which the digital signature is given, by using

5   the public key 1,

includes, as processes of said second determination unit,

the steps of: decrypting possibility/impossibility of change of

the utilization restriction information transmitted from said

data creator terminal by using the private key 2; and verifying

10   the digital signature transmitted from said data creator terminal,

and

includes, as a process of said utilization restriction

information rewriting unit, a step of verifying said digital

signature to rewrite said utilization restriction information,

15   and

said data creator terminal includes, as a process of said

first conversion unit, a step of decrypting said change request

list, which is transmitted from said user terminal, by using the

private key 1,

20   includes, as a process of said first determination unit, a

step of verifying the digital signature transmitted from said

user terminal,

includes, as a process of said utilization restriction

information setting unit, a step of inputting the possibility/impossibility of change of data utilization conditions, and

includes, as processes of said first conversion unit, the

5 steps of: giving a digital signature to a result of said possibility/impossibility; and performing encryption by using the public key 2.

4. A data distribution system according to claim 2, wherein

10 said data creator terminal further comprises:

a distribution record database which records said distribution data and utilization conditions set in units of said user terminal;

a distribution record database communication unit which

15 inputs and outputs data to said distribution record database; and

a display unit which displays said change request list of which a digital signature has been verified by said first determination unit,

said user terminal includes, as processes of said second

20 conversion unit, the steps of: converting the change request of said utilization restriction information and said user information into one change request list; giving a digital signature to said change request list; and encrypting said change

request list, to which the digital signature is given, by using the public key 1,

includes, as processes of said second determination unit, the steps of: decrypting possibility/impossibility of change of the utilization restriction information transmitted from said data creator terminal by using the private key 2; and verifying the digital signature transmitted from said data creator terminal, and

includes, as a process of said utilization restriction information rewriting unit, a step of verifying said digital signature to rewrite said utilization restriction information, and

said data creator terminal includes, as a process of said first conversion unit, a step of decrypting said change request list, which is transmitted from said user terminal, by using the private key 1,

includes, as a process of said first determination unit, a step of verifying the digital signature transmitted from said user terminal,

includes, as a process of said utilization restriction information setting unit, a step of inputting the possibility/impossibility of change of data utilization conditions, and

includes, as processes of said first conversion unit, the

steps of: giving a digital signature to a result of said

possibility/impossibility; and performing encryption by using the

public key 2.

5

5. A data distribution system according to claim 3, wherein

said data creator terminal includes, as a process of said

first determination unit, a step of determining whether data

newly created by said data creating unit and utilization

10 restriction information set by said utilization restriction

information setting unit exist in pre-revision data stored in

said distribution record database, and

includes, as a process of said first conversion unit, a step

of outputting data for transmission to said user terminal as a

15 revised version at a same utilization condition as the pre-

revision data in accordance with the distribution record stored

in said distribution record database and utilization restriction

information when said first determination unit determines that

the pre-revision data exists in said distribution record database,

20 whereby said data distribution system has a redistribution

function which redistributes data to the previously distributed

user terminal as the revised version.

6. A data distribution system according to claim 4, wherein said data creator terminal includes, as a process of said first determination unit, a step of determining whether data newly created by said data creating unit and utilization restriction information set by said utilization restriction information setting unit exist in pre-revision data stored in said distribution record database, and

includes, as a process of said first conversion unit, a step of outputting data for transmission to said user terminal as a revised version at a same utilization condition as the pre-revision data in accordance with the distribution record stored in said distribution record database and utilization restriction information when said first determination unit determines that the pre-revision data exists in said distribution record database,

whereby said data distribution system has a redistribution function which redistributes data to the previously distributed user terminal as the revised version.

7. A data distribution system according to claim 5, wherein said user terminal includes, as a process of said utilization item input unit, a step of inputting a redistribution destination,

includes, as processes of said second conversion unit, the

steps of: creating said redistribution destination and said data
identification information extracted from said utilization
restriction information retrieving unit as one redistribution
record data; performing encryption for said redistribution record
data by using the public key 1; and giving a digital signature to
said redistribution record data; and

includes, as a process of said second communication unit, a
step of transmitting said redistribution record data to said user
terminal,

and

said data creator terminal includes, as a process of said
first communication unit, a step of receiving said redistribution
record data,

includes, as a process of said first conversion unit, a step
of decrypting the encrypted redistribution record data by using
the private key 1, and

includes, as processes of said first determination unit, the
steps of: verifying the digital signature given to said
redistribution record data; and adding said redistribution record
data to said distribution record data to record the data to said
distribution record database.

8. A data distribution system according to claim 6, wherein

said user terminal includes, as a process of said

utilization item input unit, a step of inputting a redistribution

destination,

includes, as processes of said second conversion unit, the

5   steps of: creating said redistribution destination and said data

identification information extracted from said utilization

restriction information retrieving unit as one redistribution

record data; performing encryption for said redistribution record

data by using the public key 1; and giving a digital signature to

10   said redistribution record data; and

includes, as a process of said second communication unit, a

step of transmitting said redistribution record data to said user

terminal,

and

15   said data creator terminal includes, as a process of said

first communication unit, a step of receiving said redistribution

record data,

includes, as a process of said first conversion unit, a step

of decrypting the encrypted redistribution record data by using

20   the private key 1, and

includes, as processes of said first determination unit, the

steps of: verifying the digital signature given to said

redistribution record data; and adding said redistribution record

data to said distribution record data to record the data to said

distribution record database.

9. A data distribution system which has a data creator

terminal, a data user terminal and a management center, wherein

said data creator terminal comprises:

a data creating unit which creates data;

a utilization restriction information setting unit which

sets utilization restriction information in said user terminal;

a third conversion unit which converts said data and said

utilization restriction information into distribution format

data;

a third communication unit which communicates with said

management center; and

a third determination unit which verifies whether a change

request of the utilization restriction information from said user

terminal has been transmitted from a valid user terminal,

said management center comprises:

a fourth communication unit which communicates with said

data creator terminal and said user terminal;

a fourth conversion unit which converts said distribution

format data received through said fourth communication unit into

a recordable form;

a fourth determination unit which determines whether said

distribution format data is distributable and recordable and

which also determines whether an authorization for the change

request of the utilization restriction information from said user

5   terminal has been transmitted from a valid user terminal;

a center database which preserves a distribution record of

said data to said user terminal and a revision record of said

utilization restriction information; and

a center database communication unit which inputs and

10   outputs data to said center database,

and

said user terminal comprises:

a fifth communication unit which communicates with said

management center;

15   a storage medium which records said distribution format

data;

a utilization item input unit which inputs at least one

utilization item for using said distribution format data

preserved in said storage medium;

20   a user information input unit which inputs information

relating to a user of said user terminal;

a utilization restriction information retrieving unit which

retrieves utilization restriction information from said

- 46 -

distribution format data preserved in said storage medium;

a fifth determination unit which determines to be permitted of execution of the utilization item or not in said user terminal for said distribution format data on the basis of said

5   utilization restriction information, said utilization item and said user information;

a utilization process unit which executes said utilization item for said distribution format data on the basis of a determination result performed by said fifth determination unit;

10   a change request input unit which inputs a change request of said utilization restriction information;

a fifth conversion unit which converts said change request inputted through said change request input unit into a form transmittable to said management center; and

15   a utilization restriction information rewriting unit which causes said change request to be integrated into said distribution format data in said storage medium when said change request has been authorized by said data creator terminal.

20   10. A data distribution system according to claim 9, wherein,

said data creator terminal includes, as processes of said third conversion unit, the steps of: storing data identification

information for uniformly defining said distribution format data

when creating said distribution format data; encrypting said data

by using a secret key for encrypting by a secret key cryptography

to store said data in said distribution format data; storing said

5   secret key in said distribution format data; storing said

utilization restriction information in said distribution format

data; calculating a hash value of said utilization restriction

information to store the hash value in said distribution format

data; giving a digital signature to said distribution format

10   data; and encrypting said distribution format data by using a

public key 5 for encrypting by public key cryptography,

said management center includes, as processes of said fourth

conversion unit, the steps of: performing decryption by using a

private key 5 for decrypting the distribution format data

15   encrypted by said public key 5; and encrypting said distribution

format data, which is decrypted, by using a public key 2 for

encrypting by public key cryptography, and

includes, as processes of said fourth determination unit,

the steps of: verifying the digital signature given to said

20   distribution format data; and hash converting said utilization

restriction information from said distribution format data to

compare said utilization restriction information with the hash

value in the distribution format data,

and

said user terminal includes, as a process of said fifth conversion unit, a step of decrypting the distribution format data, which is encrypted by using said public key 2, by using a

5   private key 2,

includes, as processes of said utilization restriction information retrieving unit, the steps of: retrieving said utilization restriction information from the distribution format data; and calculating a hash value of said utilization

10   restriction information to compare the hash value with a hash value in said distribution format data, and

includes, as a process of said utilization process unit, a step of decrypting the encrypted data by using said secret key.

15   11.   A data distribution system according to claim 9, wherein,

said user terminal includes, as processes of said fifth conversion unit, the steps of: converting an input from said change request input unit and an input from said user information

20   input unit into one change request list; giving a digital signature to said change request list; and performing encryption for said change request list by using the public key 5,

includes, as processes of said fifth determination unit, the

steps of: decrypting the determination result encrypted by using the public key 2, by using the private key 2; and verifying the digital signature given to said determination result, and

includes, as a process of said utilization restriction information rewriting unit, a step of verifying the digital signature to rewrite said utilization restriction information,

said management center includes, as processes of said fourth conversion unit, the steps of: decrypting the received change request list by using the private key 5; encrypting said change request list by using the public key 4; decrypting a determination result encrypted by said public key 5, by using said private key 5; giving a digital signature to the determination result; and encrypting the determination result, to which the digital signature is given, by using said public key 2, and

includes, as processes of said fourth determination unit, the steps of: verifying the digital signature given to the change request list transmitted from said user terminal; and verifying the digital signature of the determination result decrypted by said fourth conversion unit,

and

said data creator terminal comprises a display unit which displays said change request list in which the digital signature

is verified as a process of said first determination unit,

includes, as a process of said third determination unit, a step of verifying the digital signature given to said management center,

5   includes, as a process of said utilization restriction information setting unit, a step of inputting the possibility/impossibility of said change request, and

includes, as processes of said third conversion unit, the steps of: performing decryption by using the private key 4;

10   giving a digital signature to the determination result of said possibility/impossibility; and performing encryption by using said public key 5 for encrypting by public key cryptography.

12.   A data distribution system according to claim 10,

15   wherein,

said user terminal includes, as processes of said fifth conversion unit, the steps of: converting an input from said change request input unit and an input from said user information input unit into one change request list; giving a digital

20   signature to said change request list; and performing encryption for said change request list by using the public key 5,

includes, as processes of said fifth determination unit, the steps of: decrypting the determination result encrypted by using

the public key 2, by using the private key 2; and verifying the digital signature given to said determination result, and

includes, as a process of said utilization restriction information rewriting unit, a step of verifying the digital
5 signature to rewrite said utilization restriction information,

said management center includes, as processes of said fourth conversion unit, the steps of: decrypting the received change request list by using the private key 5; encrypting said change request list by using the public key 4; decrypting a
10 determination result encrypted by said public key 5, by using said private key 5; giving a digital signature to the determination result; and encrypting the determination result, to which the digital signature is given, by using said public key 2, and

15 includes, as processes of said fourth determination unit, the steps of: verifying the digital signature given to the change request list transmitted from said user terminal; and verifying the digital signature of the determination result decrypted by said fourth conversion unit,

20 and

said data creator terminal comprises a display unit which displays said change request list in which the digital signature is verified as a process of said first determination unit,

includes, as a process of said third determination unit, a

step of verifying the digital signature given to said management

center,

includes, as a process of said utilization restriction

5   information setting unit, a step of inputting the

possibility/impossibility of said change request, and

includes, as processes of said third conversion unit, the

steps of: performing decryption by using the private key 4;

giving a digital signature to the determination result of said

10   possibility/impossibility; and performing encryption by using

said public key 5 for encrypting by public key cryptography.

13.   A data distribution system according to claim 11,

wherein

15   said management center includes, as a process of said fourth

determination unit, a step of determining whether pre-revision

data exists in said center database as said distribution format

data,

includes, as a process of said fourth conversion unit, a

20   step of transmitting data to said user terminal as a revised data

at a same condition as the pre-revision data in accordance with a

distribution record of said distribution record database and the

utilization restriction information when said fourth

determination unit determines that the pre-revision data exists in said center database,

whereby said data distribution system has a redistribution function which redistributes data as the revised data to the

5   previously distributed user terminal.

14.   A data distribution system according to claim 12, wherein

said management center includes, as a process of said fourth

10   determination unit, a step of determining whether pre-revision data exists in said center database as said distribution format data,

includes, as a process of said fourth conversion unit, a step of transmitting data to said user terminal as a revised data

15   at a same condition as the pre-revision data in accordance with a distribution record of said distribution record database and the utilization restriction information when said fourth determination unit determines that the pre-revision data exists in said center database,

20   whereby said data distribution system has a redistribution function which redistributes data as the revised data to the previously distributed user terminal.

15. A data distribution system according to claim 13, wherein

said user terminal includes, as a process of said utilization item input unit, a step of inputting a redistribution

5   destination, and

includes, as processes of said fifth conversion unit, the steps of: creating both said redistribution destination and data identification information extracted by said utilization restriction information retrieving unit as one redistribution

10   record data; performing encryption for said redistribution record data by using the public key 5; and giving a digital signature to said redistribution record data,

and

said management center includes, as processes of said fourth

15   communication unit, the steps of: transmitting said redistribution record data to said data creator terminal; and receiving said redistribution destination data,

includes, as a process of said fourth conversion unit, a step of decrypting the encrypted redistribution record data by

20   using said private key 5, and

includes, as processes of said fourth determination unit, the steps of: verifying the digital signature given to said redistribution record; and adding said redistribution record data

to said distribution record data to record the data to said

center database.

16. A data distribution system according to claim 14,

wherein

said user terminal includes, as a process of said

utilization item input unit, a step of inputting a redistribution

destination, and

includes, as processes of said fifth conversion unit, the

steps of: creating both said redistribution destination and data

identification information extracted by said utilization

restriction information retrieving unit as one redistribution

record data; performing encryption for said redistribution record

data by using the public key 5; and giving a digital signature to

said redistribution record data,

and

said management center includes, as processes of said fourth

communication unit, the steps of: transmitting said

redistribution record data to said data creator terminal; and

receiving said redistribution destination data,

includes, as a process of said fourth conversion unit, a

step of decrypting the encrypted redistribution record data by

using said private key 5, and

includes, as processes of said fourth determination unit,

the steps of: verifying the digital signature given to said

redistribution record; and adding said redistribution record data

to said distribution record data to record the data to said

5   center database.

17.   A data distribution system according to claim 1,

wherein said utilization restriction information is

individually set in units of user terminals, and among a display

10   of said data, possibility/impossibility of copying,

possibility/impossibility of copying, permissible number of

copying, permissible generation number of copying, and

permissible number of copying in units of generation numbers, at

least one or more information is set in said utilization

15   restriction information.

18.   A data distribution system according to claim 6,

wherein said utilization restriction information is

individually set in units of user terminals, and among a display

20   of said data, possibility/impossibility of copying,

possibility/impossibility of copying, permissible number of

copying, permissible generation number of copying, and

permissible number of copying in units of generation numbers, at

least one or more information is set in said utilization

restriction information.

19. A data distribution system according to claim 1,

5 wherein said utilization restriction information comprises

display area restriction information.

20. A data distribution system according to claim 6,

wherein said utilization restriction information comprises

10 display area restriction information.

21. A data distribution system according to claim 19,

wherein

said data is of capable of displaying, including a text and

15 an image,

said utilization process unit includes a step of displaying

for viewing said data, and

said display area restriction information is at least one or

more information set among size information of said display unit,

20 display magnification information of said data displayed in said

display unit, and non-display position information showing a

portion which is set as non-display at the user terminal.

22. A data distribution system according to claim 20, wherein

said data is of capable of displaying, including a text and an image,

5   said utilization process unit includes a step of displaying for viewing said data, and

said display area restriction information is at least one or more information set among size information of said display unit, display magnification information of said data displayed in said

10   display unit, and non-display position information showing a portion which is set as non-display at the user terminal.

23. A data distribution system according to claim 1, wherein

15   said utilization restriction information includes time information,

said change request input unit includes a step of setting said time information,

said second determination unit includes a step of comparing

20   said time information with a time at which a utilization item is inputted in a case when using said data in said user terminal, to determine possibility/impossibility of utilization.

24. A data distribution system according to claim 22, wherein

said utilization restriction information includes time information,

5   said change request input unit includes a step of setting said time information,

said second determination unit includes a step of comparing said time information with a time at which a utilization item is inputted in a case when using said data in said user terminal, to

10   determine possibility/impossibility of utilization.

25. A data distribution system according to claim 23, wherein

at least one of said management center and said data creator

15   terminal comprises a time measuring unit,

said second communication unit communicates with said management center or said data creator terminal when using the data if said second determination unit has retrieved time information from the data, and retrieves management time

20   information measured by said time measuring unit, and

said second determination unit compares said time information with said management time information.

26. A data distribution system according to claim 24,
wherein

at least one of said management center and said data creator
terminal comprises a time measuring unit,

5   said second communication unit communicates with said
management center or said data creator terminal when using the
data if said second determination unit has retrieved time
information from the data, and retrieves management time
information measured by said time measuring unit, and

10   said second determination unit compares said time
information with said management time information.